

Detection of Drug Abusers by Urine Screening

TO DETECT DRUG ABUSERS for purposes of individual treatment, for identification of "epidemic carriers," and for prevention of various employee risks, mass urine drug screening has become widely applied. Many objections have been voiced on the grounds of invasion of privacy, the specimen and result mixup probabilities, and technical error rates.

Methodological approaches include thin layer chromatography (TLC), ultraviolet spectroscopy (UV), gas chromatography (GC), free radical assay technique (FRAT®), and enzyme immunoassay technique (EMIT®). Sensitivity levels are one key point upon which the likelihood of false positives or false negatives rests. In terms of consequences, the difference between reporting a positive urine glucose or morphine is extreme.

One 1972 urine drug screening quality control program tested ten California laboratories and found average results of: (1) correct, 40 percent; (2) false positive, 42 percent; (3) false negative, 48 percent; and (4) misidentification, 10 percent. It seems unlikely that any mass screening program now operative is performing at an acceptable level of competence.

Considering the cost of doing these programs well and the potential consequences of error, we have proposed a moratorium on all such programs in clinically well individuals unless more fail-safe methods become available.

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Use of Packed Red Blood Cells for Transfusion

RECENT ADVANCES in transfusion therapy demand the use of specific components and derivatives rather than of whole blood. Increasing requirements for Factor VIII as cryoprecipitate or lyophilized concentrate, prothrombin complex (Factors II, VII, IX, and X), and platelet concentrates tax or exceed the available supply of volunteer donor blood. Most blood units must therefore be fractionated, leaving mostly packed red blood cells for transfusion purposes.

Transfusion serves two purposes: first, the replenishment of the oxygen-carrying capacity by the addition of red blood cells; and second, the restoration of the intravascular volume in an acutely bleeding patient. Recent work has clearly demonstrated the efficacy of volume replacement by balanced electrolyte solutions, thus reducing the amount of blood required for transfusion and also making possible the predominant use of packed red blood cells for the replacement of the oxygen-carrying capacity. Experience has shown the real feasibility of administering the first two units of blood required by any patient as packed red blood cells, and at least every other unit thereafter. At least 80 to 85 percent of all blood should be used as packed red blood cells. When absolutely required, "whole blood" may be synthesized from packed red blood cells and fresh frozen plasma, supplemented by platelet concentrates as necessary.

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